

# Foundations are in place for three of six Kendall Square sites

## *Brothers Marketplace will open this summer in Kendall Square*

By Kaitlyn Hennacy  
STAFF REPORTER

The latest updates on the Kendall Square Initiative include complete foundations and concrete and steel structures at three sites: two on both sides of the Kendall Square T Station and one at 1 Broadway, across the street from building E62.

These are sites number 1, 4, and 5 out of six sites that MIT has zoned as part of the Initiative, which will transform Kendall Square into a unique mixed-use district, Israel Ruiz, executive vice president and treasurer at MIT, said at a faculty meeting Sept. 29.

Zoning for the project was approved in April 2013, and in total, there have been ten years of planning for the project.

Site 1 is on target for its retail portion to be complete in summer 2019, Monica Lee, senior communications officer for the Department of Facilities, wrote in an email to *The Tech*.

Brothers Marketplace, a local and artisanal specialty store and caterer, will occupy 19,000 square feet of the ground floor and is expected to open this summer. The neigh-

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KEVIN LY - THE TECH

MIT President L. Rafael Reif and Chairman of the Corporation Robert Millard '73 look on as the ribbon is cut with a large pair of scissors to start off the grand opening of the MIT.nano building Oct. 4.

# New House community changed due to renovations, residents say

## *'I am happy that we're finally settled in this new space, but I'm just really sad it's in my senior year,' student says*

By Melody Wu

The pre-existing culture of New House before its renovations has largely been lost, according to Burhan Azeem '19, a four-year member of iHouse, a living group in New House, in an interview with *The Tech*.

There has also been a seven percent increase in first-year students in New House this year compared to 2016–2017, according to Connie Hemingway, communications manager, on behalf of Housing and Residential Services.

During the early stages of fixing the plumbing issues in New House in fall 2015, some residents were moved to the Hyatt Regency while others were scattered throughout on-campus housing and independent living groups.

After moving back into New House during IAP 2015, however, residents were forced to move out again in fall 2017 when New House experienced flooding due to maintenance issues. During this time, MIT determined that it was best for New House to undergo complete renovations.

When asked how he felt about the past few years, Azeem said, "I'm kind of just exhausted. I have had to move so many times, gone through so many buildings, so many areas... Having to resettle and trying to rebuild the culture in one semester only to have it destroyed the next semester... I am happy that we're finally settled in this new space, but I'm just really sad it's in my senior year."

Azeem believes that MIT Housing did what it could given the cir-

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ASSEL ISMOLDAJEVA - THE TECH

New House residents work in a newly-renovated lounge. The dorm reopened to all residents this fall.

# 2018 Security and Fire Safety Report released

## *Number of incidences of burglary increased from 25 to 36 over the last year*

By Soomin Chun

The MIT Police released their Annual Security and Fire Safety Report Sept. 28. The report contains crime statistics on criminal and Violence Against Women Act (VAWA) offenses, arrests and disciplinary referrals, and hate crimes from 2015 to 2017.

The number of reports of rape decreased from 21 in 2015 to 12 in 2017. Inversely, reports of burglary increased from 25 to 36 over the last year, reflecting the influx of "Timely Warnings" that students have received.

For the VAWA statistics, domestic violence stayed the same as last year at 13 reports, while stalking violence increased from eight to 14 and dating violence decreased from seven to three.

Liquor law violations dropped significantly from 77 to 45 from 2016 to 2017, while drug abuse violations increased slightly from five to seven. No hate crimes related to disability, ethnicity, gender, gender identity, race, national origin, religion, or sexual orientation were reported in 2017.

The report also detailed steps in order to properly handle burglaries, such as taking close notice of an intruder's appearance, age, height, weight, and clothing and then notifying MIT Police, rather than confronting or pursuing the intruder. Another safety net against burglaries is to get insurance for valuable property.

For stolen bicycles, the report recommends investing in a U-lock

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## IN SHORT

**PE registration** opened Wednesday for undergraduates. Graduate students may register starting Tuesday, Oct. 16 at 8 a.m. Registration closes for all students Wednesday, Oct. 17 at 1 p.m. First come, first serve!

The next **flu shot clinics** will be Tuesday, Oct. 16 from 3–7 p.m. and Thursday, Oct. 18 from 3–6 p.m. in the Stratton Student Center (W20) and Tang Center (E51), respectively.

The **last day to register to vote** in the state of Massachusetts is Wednesday, Oct. 17. Use the TurboVote system online or fill out a mail-in form at an MIT library.

Interested in **joining The Tech**? Stop by for dinner Sunday at 6 p.m. or email [join@tech.mit.edu](mailto:join@tech.mit.edu).

Send news and tips to [news@tech.mit.edu](mailto:news@tech.mit.edu).

## LONG LIVE (THE) QUEEN

We interview Rami Malek and co-stars for *Bohemian Rhapsody*. **ARTS, p. 5**

## FLU SEASON

How does influenza mutate so rapidly? **SCIENCE, p. 9**

## AI ARTISTRY

AI generates pizza, perfume and graffiti. **SCIENCE, p. 9**



## A FUN NIGHT AND A CHANCE TO ESCAPE

The Decemberists play atypical, heart-filled, happy music. **ARTS, p. 4**

## WAS IT A DATE?

Auntie Matter gives advice on this age-old question. **CAMPUS LIFE, p. 8**

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WEATHER

Historic hurricane hits the Florida Panhandle

By Sarah Weidman  
STAFF METEOROLOGIST

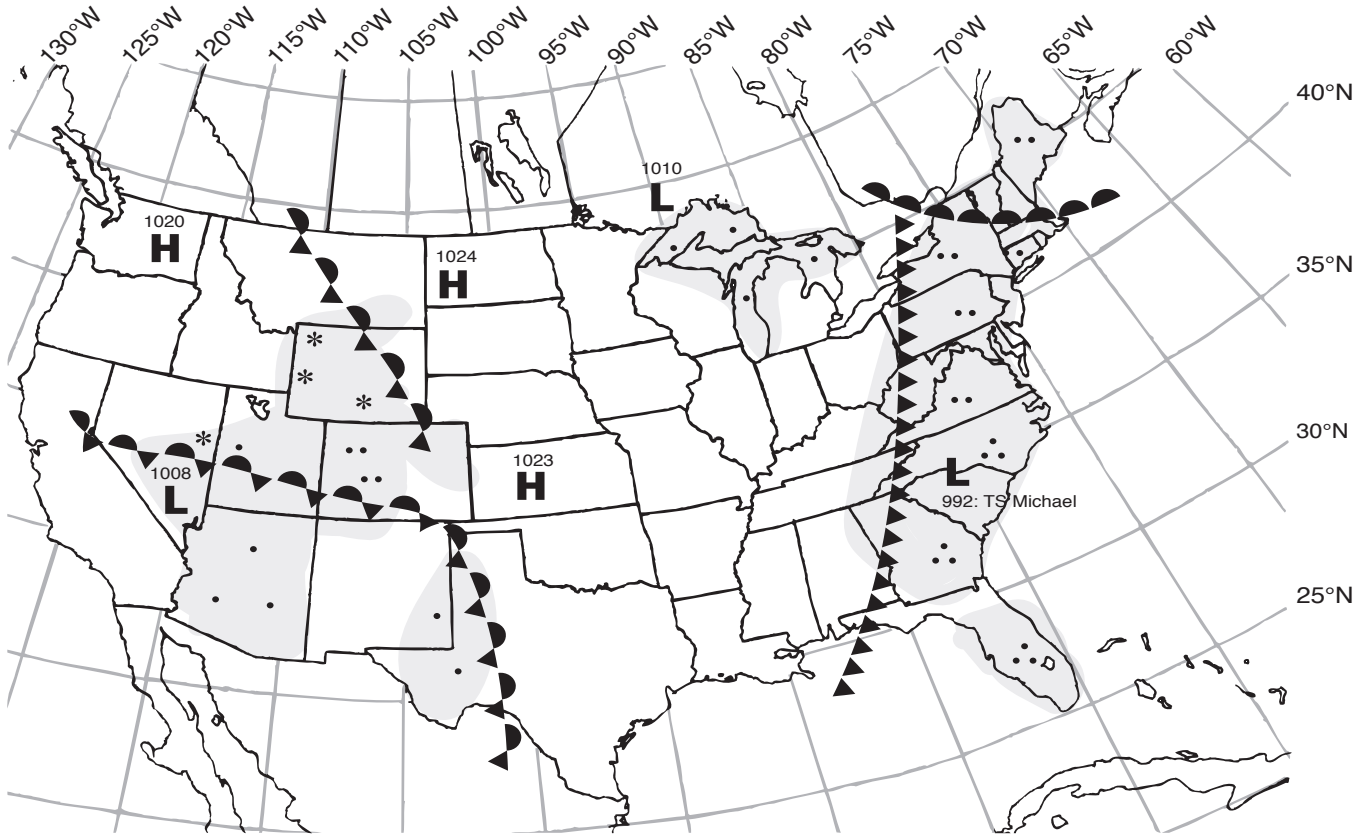
Yesterday was an abnormally hot day for October, reminiscent of our hot summer, especially after a few weeks of chilly fall weather. It looks like the heat is not here to stay, however, as this afternoon will bring in heavy rain, pushed by a cold

front from the west. Areas of the Northeast have the potential for flash flood warnings as the heavy storm comes in. Some of the precipitation is due to Hurricane Michael finally coming northeast from Florida and Georgia.

Hurricane Michael was the second major Atlantic hurricane to hit the United States

this season. Unlike most recent Atlantic hurricanes, Michael traveled north from the Yucatan Peninsula, hitting Cuba and the Florida Panhandle on the way. It was upgraded to a Category 4 hurricane, one of the strongest rankings for storms, before it made landfall in Florida, and it fell to Category 3 as it hit Alabama and

Georgia. The storm had destructive consequences, with consistent lightning striking in the eyewall, heavy rain causing serious flooding, and winds reaching an immense 155 mph. Because of its unusual path and strength, Hurricane Michael is going to be remembered as a historically intense storm.



Situation for Noon Eastern Time, Thursday, October 11, 2018

Weather Systems	Weather Fronts	Precipitation Symbols		Other Symbols
		Snow	Rain	
<b>H</b> High Pressure	- - - Trough	* (Snow)	∇ (Rain)	≡ Fog
<b>L</b> Low Pressure	—••• Warm Front	* (Snow)	• (Rain)	⚡ Thunderstorm
§ Hurricane	▲▲▲ Cold Front	** (Snow)	•• (Rain)	∞ Haze
	▲—• Stationary Front	** (Snow)	•• (Rain)	

Extended Forecast

Today: Heavy rain. High around 71 °F (22 °C). East winds at 15-20 mph.  
Tonight: Heavy rain. Low around 59 °F (15 °C). Southwest winds at 7-12 mph.  
Tomorrow: Partly sunny. High around 62 °F (16 °C) and low around 47 °F (8 °C). Northwest winds at around 15-20 mph.  
Saturday: Mostly sunny. High around 56 °F (13 °C) and low around 44 °F (6 °C).  
Sunday: Sunny. High around 58 °F (14 °C).

Tom Friedman speaks on tech and optimism  
America has ‘too much technological prowess’ to permit income inequality

By Anshula Gandhi  
STAFF REPORTER

Tom Friedman, Pulitzer-prize winning journalist, spoke at MIT’s Compton Lecture Oct. 1 about his most recent book, *Thank You for Being Late: An Optimist’s Guide to Thriving in the Age of Accelerations*.

Friedman argues that an age of accelerations, particularly in technology, began in 2007. Facebook went global in late 2006, Airbnb started in 2007, and Android, Kindle, and iPhone were all released in 2007. Technology has

been accelerating ever since, with humans struggling to adapt to its changes, according to Friedman.

Because of such rapid technological advancement, Friedman argues, people should be more optimistic about the future. Some people feel that the “American dream is not within their grasp,” Friedman said in an interview with *The Tech*. “That’s simply unconscionable. Our country is too rich, has too much technological prowess to be letting that happen.”

“That’s why I think universal healthcare and universal access

to lifelong learning should be a human right. We can’t neglect that without it ruining the whole society. People are learning that lesson right now.”

Friedman talked about Professor Regina Barzilay, who studies machine learning applied to health care, as an example. “Systems she’s building can detect her breast cancer much earlier because [they are] trained on so many more breast cancers than any human doctor can [study].”

Friedman, who wrote about using artificial intelligence to as-

sist humans in his book (“intelligent assistance,” as he branded it), met with professors involved in AI research the morning before giving his talk. The purpose of AI, according to Friedman, is “to find the needle in the haystack of your data as a norm, rather than the exception.”

Friedman is also optimistic about the future of educational technology. He mentioned a program that partnered with Khan Academy to allow 3 million American kids to receive free PSAT and SAT prep and consequent scholarships.

CORRECTIONS

An article in the Sept. 18 issue of *The Tech* about the Animal-Shaped Vessels exhibit had instances of “Harvard Art Museums” incorrectly printed as “Harvard Art Museum.”

An article from last week’s issue about the city of Cambridge’s

project to redesign the Massachusetts Avenue lanes inaccurately characterized some of the contents of a letter sent by MIT to the city. MIT is requesting coordination on the Grand Junction community path, not railroad, and Longfellow, not Harvard, Bridge renovations. MIT also did not explicitly ask for a delay, but rather that the city consider additional concerns before the project is implemented.

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# Admissions will move to Kendall

Kendall, from Page 1

borhood market is operated by Roche Bros. Supermarkets, a family business which currently has 20 locations.

The location, also known as 1 Broadway, will be about a five minute walk east of the Kendall Square T Station.

Site 4, according to Lee, is on target to complete by fall 2020. Construction of the exterior façade will start this December, while the concrete structure is expected to be completed next summer.

The building will house the MIT Admissions department, a child care center, and a welcome center, in addition to providing

graduate housing, Hashim Sarkis, dean of the School of Architecture and Planning, said at the Sept. 29 faculty meeting.

Site 5 has a target occupancy of early 2021, Lee wrote. Tenants include the Boeing Aerospace & Autonomy Center, as well as the MIT Museum and the MIT Press.

The 437,000 square foot building will be located at 314 Main Street. On Tuesday, MIT invited the public to a groundbreaking ceremony to celebrate the start of construction at this site.

The sites lie over what used to be surface parking lots. To make up for the loss of parking lots, the Kendall Square Parking Garage is currently being excavated near the T stop. This will have 1,121 under-

ground parking spaces, Lee wrote.

While unsure about how much demand will arise for parking after new lab and commercial spaces open, Ruiz said at the faculty meeting that this is the maximum amount of parking that the City of Cambridge would allow.

Above ground, on top of where the parking garage will be, the Kendall Initiative has planned an open space with performance areas, art, and an outdoor movie theater, Sarkis said at the faculty meeting.

Target completion dates for sites 2, 3, and 6 are still to be determined, with construction not yet started. These will contain a mix of commercial labs, office space, and retail, according to Sarkis.



ASSEL ISMOLDAYEVA - THE TECH

Residents of French House cook and socialize in their renovated kitchen in New House Oct 1.

# Lounge and connected corridors unite house members

New House, from Page 1

cumstances — a number of New House residents were given a place in the Hyatt and were provided with a free meal plan — but he thinks that the communities of New House were greatly impacted.

The historic murals that once lined New House's walls have been replaced with white walls. "[There were] murals from generations of people who had painted [them] and

they were destroyed. We moved back in and we painted murals again one semester, but they were destroyed. Then we painted murals the following semester and they were destroyed, and now we are here and we can't paint murals anymore," Azeem said.

However, some houses were not as impacted by the renovations. According to Emmanuel Akinbo '19, a member of German House, "the main effect that the renovations

had was that we went from all living in singles to half of the house living in doubles."

Some of the new features of New House are the first-floor arcade with a house lounge and connected corridors on upper floors. These new spaces have promoted interaction between the houses and the development of a new culture. "The houses are more connected. There is a lot more open space for people to intermingle...

I think it's well-poised to make the house more connected," Emmanuel Akinbo '19 said in an interview with *The Tech*.

"The facilities are definitely very appealing, especially since it's a very new New House," Susan Su '22, a resident of French House, said in an interview with *The Tech*. "Being one of the only dorms with air-conditioning is a plus. I made a lot of friends just by hanging out in the lounge and doing psats."

In an email statement to *The Tech*, Hemenway, on behalf of Housing and Residential Services, wrote, "The completion of the new Vassar Street residence hall will give MIT the flexibility needed to continue to address renovation needs in its residential system. No decisions have been made yet about which residence hall will be renewed following the completion of the new Vassar Street residence hall."



ASSEL ISMOLDAYEVA - THE TECH

Max Levchin, co-founder of PayPal and CEO of Affirm, talks about his experience with entrepreneurship during "Tech Tour: Fireside Chat" Oct. 2.

# Report includes tips to secure belongings

Security, from Page 1

and securing the bicycle through both wheels and around the frame because "cables and chains are easily defeated," according to the report.

"I fell victim to bike theft when my bike was stolen in less than 24 hours after I put it together," Gary Nguyen '22 said in an interview with *The Tech*. "I learned the hard way to avoid cable locks at all costs and since then, I've employed three U-locks to secure my bike. Yes, I'm that paranoid now — but not without reason."

The report also defines dat-

ing violence, domestic violence, stalking, and sexual assault. There is a description of consent as informed, freely and actively given, and with mutually understandable words or actions. Silence cannot be taken as consent, and there are ways to report anonymously online.

In addition to crime statistics, the report includes causes of fire, such as a burned cutting board or ignited dry leaves. There were only three fires on school grounds in 2017 in comparison to five in 2015 and 2016.

Crime reports can be made to the MIT Police at (617)-253-1212 or by dialing 100 on an Institute phone.

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# Lady Gaga gives spectacular performance in *A Star is Born*

Bradley Cooper's directorial debut is a modern take on an old-fashioned story

With *A Star Is Born*, first-time director Bradley Cooper takes on an ambitious task: bringing a fresh perspective to a story told so many times that it's no doubt a Hollywood cliché. This fourth remake of a movie by the same name tells the story of Ally (Lady Gaga), a girl with a beautiful voice but a big nose. Jaded by an industry that “likes the way [she] sounds but [doesn't] like the way [she] looks,” she's all but given up on making her big break when she meets country singer Jackson Maine (Bradley Cooper).

The first third of the film is golden. The first shot begins with Maine as he stumbles, evidently wasted, into a drag club. The camera then zooms out to capture a stunning guest performance of “La Vie en Rose” by Ally, a former waitress there. Afterwards, Maine approaches Ally in the changing room where we see her up-close, coated in extravagant makeup and fake accessories; Maine is having none of it. When he peels off her taped-on eyebrow to reveal a silhouette outline of the real thing beneath it, we know exactly what the theme of movie is. Yet, the sparkling connection between the two locks our eyes to the screen.

The next 20 minutes take us through the raw, beautiful blossoming of Ally and Maine's love. "I don't sing my own songs," Ally says, "I just don't feel comfortable." But when Ally and Maine are together, the rest

of the world disappears, and the camera captures a sense of absolute security and peace in both of them that we all secretly yearn for. A scene in the parking lot when Ally nervously sings some original song lyrics, baring her true soul to Maine for the first time, is the most powerful moment in the movie. The classic motif "true beauty lies within" continues to resurface, but not obnoxiously, as is the worry with clichés. When Maine asks Ally if he may touch her nose, an insecurity of hers, we wonder: first her eyebrow, now this? But as she blinks slowly, and he runs his finger down her nose in an almost erotic passion, we witness the nervous skepticism in her wide brown eyes slowly fade to complete trust and tranquil determination. When Ally goes on tour with Maine, we see her continue to shed her self-doubts in multiple charming cuts of Ally and Maine singing her original songs together. Everything is perfect for the couple, and we feel it too.

But as Ally ascends to fame in the musical world, Maine quickly begins his downward plummet into the abyss of alcohol and drugs. They are constantly at odds with each other, and the happy perfection of their first moments disappears. Maine's fate is perhaps expected, yet the resolution of the movie on Ally's side remains for the audience to interpret.

With Maine's presence dwindling, he drags Ally down with him, despite her out-

ward successes. An original duet Ally and Maine sing together called "Shallow" serves as a theme song for the movie from the beginning. Maine's part in the chorus asks: "Tell me something girl, are you happy in this modern world? / Or do you need more? / Is there something that you're searching for?" Now, both lovers stray from their initial peace and search for "something more." For Maine, that's alcohol and drugs. Addiction runs in the family, and thus his fate is perhaps a foregone conclusion based on the movie's history. Ally, too, gets confused. At a "big break" performance on SNL, she gives into the demands of her producer Rez (who represents the industry) and sings in flashy leggings with backup dancers and the whole sexed-up shebang: "Why do you look so good in those jeans? / Why'd you come around me with an ass like that? / You're making all my thoughts obscene. / This is not, not like me." No, it's not like her at all. In the darkest parts of the movie, superficialities threaten to swallow Ally and make her "shallow."

But for a movie that initially exudes the theme of “finding one’s true self,” backed by an anthem that preaches “digging beneath shallow exteriors,” the “losing oneself” rising action drags on for surprisingly long. Cooper takes a risk by allowing the darkening plot to spiral on and on until the last few minutes of the movie, where Ally arguably gains back some rawness. Ultimately, it pays off. Each of her achievements, culminating with a visit to the Oscars, feels more superficial than the last, thanks to short choppy shots depicting success after success, each followed by unsatisfying mixed reactions from the characters. We ourselves are confused as to whether we should congratulate her material success or mourn her personal loss, and that’s exactly how Cooper wants us to feel. The alcoholism and drug use, while typical in their effects on Maine’s life and relationships, are portrayed with numbing gravity and intensity.

No doubt the most impressive aspect of *A Star Is Born* is the phenomenal acting performances. Once again, Cooper takes a huge risk, casting Gaga in her first major motion picture as his co-star. Known in the public eye for her provocative behavior and often outrageous appearance (remember the meat dress?), she is in many ways the opposite of Ally, who strives to stay true to her mascara-free self despite setbacks. Ally's SNL performance in the film, in which she dances and shakes about in her tight bodysuit, is right out of one of



**Ally (Lady Gaga) and Jackson Maine (Bradley Cooper)** exchange a flirtatious glance as they write music together.

★★★★☆

# A Star is Born

**Directed by Bradley Cooper**

**Written by Bradley  
Cooper, Eric Roth, and  
Will Fetters**

## Starring Bradley Cooper and Lady Gaga

## Rated R, Now Playing

Lady Gaga's real life music videos. At times, the resemblance is uncanny; we have to pinch ourselves to remember that we are watching Ally's rise to fame, not Gaga's. That is not to belittle Gaga's acting performance; her singing is raw and straight from the heart, and the chemistry between Gaga and Cooper is unmistakable and wonderfully executed in both directions. For any fourth rendition of a movie to work, the acting must be on point; Gaga's alluring stage presence and compelling passion saves the film from falling flat. But the more raw and exposed Gaga acts to play Ally's character so beautifully, the more confused we are. Who is this actress/singer that is able to empathize with Ally so well they become one and the same? And how are these lovely notes flowing from lips that most of us have only heard under heavy auto tune? Gaga's performance is unquestionably impressive, and her voice is absolutely lovely, yet we can't help question Cooper's choice to cast her in this role given the modern pop culture associations our minds make when we hear the name "Lady Gaga."

Maine's older brother, played by none other than Sam Elliott, says in the film: "Music is essentially 12 notes between any octave. Twelve notes and the octave repeats. It's the same story told over and over, forever. All any artist can offer the world is how they see those twelve notes. That's it."

*A Star is Born* is a beloved Hollywood tune that can be, and has been, sung over and over. But with Gaga's help, Cooper succeeds in dreaming up a melody we haven't quite heard before. *A Star is Born* is a remake made well and acted even better, with a powerful message for anyone who stops to listen.

## CONCERT REVIEW

# The Decemberists visit Boston in October

## The Decemberists, a nautical indie band, brings folk back to Beantown

# The Decemberists

# Orpheum Theatre

Oct. 8

**By Lila Jansen**

*STAFF WRITER*

After attending my first Decemberists concert as a high school senior in 2015, it was only fitting that four years later, as a college senior, I would make my way back to one of their shows. The Decemberists concert at Orpheum Theatre this past Fri-

day didn't have your typical rowdy concert crowd. One of the most endearing aspects of The Decemberists is their multi-generational, devotional, and slightly nerdy fan base. It is this group of fans that allows the band to create cheesy but fun audience participation-based songs and acts, a feat that sets them apart from most other bands and performers.

Not only do The Decemberists have support from their devoted fans to create a relaxed and friendly concert ambiance, but their incredibly novel and spirited music also brings continual enthusiasm to the crowd. Their style can be described as hipster, indie rock — nautical folk. They combine instruments ranging everywhere from synthesized organs and accordion

to cello and electric guitar, making music that is anything but typical, but is exactly what you would expect from a band based out of Portland, Oregon. Like the music, the band itself gives off an eclectic, hipster vibe. Colin Meloy, the lead singer and songwriter has a classic hipster beard, and pelts out song after song filled with funky and surprising lyrics, and traverses the stage acting out the assortment of odd characters depicted in his music. His voice is strong and distinct, and the voices of the female backups, Jenny Conlee and Kelly Hogan (on tour only), are equally strong.

The apex of the show was the performance of their throwback hit, "The Mariner's Revenge Song." This song was the ul-

time campy sing-along, in which a giant blow up whale was sent into the theatre, and the audience was instructed to scream in terror at key moments throughout the song. It was this immersive fun experience that brings so much joy and heart to the concert, and makes The Decemberists the perfect fairytale folk music that allows adults to feel once more the joys of childhood.

All in all, I would recommend The Decemberists to anyone looking for a fun night and a chance to escape to the folklore childhood concerts of their past as an adult. While it might not be your typical style, it will definitely be something new, and you will definitely leave with a happy heart and filled spirit.

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## INTERVIEW

# Rami Malek and co-stars talk Queen

Rami Malek, Gwilym Lee, and Joseph Mazzello walk the red carpet for *Bohemian Rhapsody* Boston screening

# Bohemian Rhapsody

**Written by Anthony McCarten**

**Directed by Bryan Singer**

**Starring Rami Malek,  
Gwilym Lee, Joseph  
Mazzello, Ben Hardy, Lucy  
Boynton**

**Rated PG-13, Playing Nov. 2**

**By Ivy Li**

ARTS EDITOR

Queen fans, rejoice. Non-Queen fans, also rejoice, for Freddie Mercury is brought into the spotlight once again, with his stage-strutting, charismatic charm. College students attended a free advance screening of *Bohemian Rhapsody* last Monday at AMC Loews Boston Common. Stars Rami Malek, Gwilym Lee, and Joseph Mazzello walked the red carpet and stayed for a Q&A session with the student audience. I had the fortune to interview them about their work in the upcoming film, coming out at the end of this month. Mercury biopic *Bohemian Rhapsody* hopes to bring a deeper context of the singer's life and the British rock band Queen's rise to stardom.

In the film, Gwilym Lee plays Brian May, lead guitarist of Queen. Film production had the support of real-life Queen members May and drummer Roger Taylor and Brian May. When I spoke to Lee about what it was like working with the two legends, he told me, "They knew the story better than anyone." Lee commented that May was a "very warm and generous man, generous with his time" and someone "who wears his intelligence quietly," referring to both May's astrophysics background and musical talent. Having their blessing and support, Lee said, helped the cast and crew go forth with the film.

I asked him if he had to teach anyone a British accent. "Everyone was on top of it," he said proudly, noting how hard each actor worked to recreate the precise manner of speaking for each Queen member. When I spoke with the next two actors, the camaraderie, offset, mutual support, and work ethic in producing this film was clear. Lee said that the family dynamic was present both on and off set.

Rami Malek stars as frontman Freddie Mercury, a very different character than his other role, the introverted vigilante hacker Elliot from *Mr. Robot*. “I sure hope he [came across as] different,” laughed Malek after I asked him about balancing two different roles. Malek told me he wanted to portray “the multiple facets of Freddie Mercury” and that “Elliot wouldn’t have the charisma to pull off Freddie Mercury.”

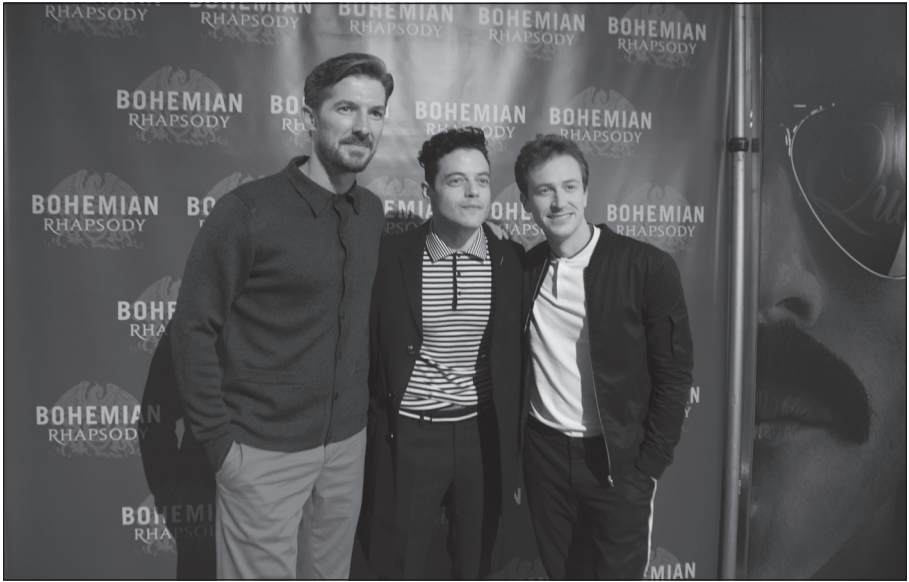
Malek commented that owning the role with Mercury's charisma was how he could honor the man the Queen singer was. When I asked about the toughest scene to film, he immediately remarked Wimbledon. The

full-length recreated Live Aid Queen concert at Wimbledon is one of the longest portions of the film. Malek said the whole concert was filmed from the start before the rest of scenes were filmed.

The third star that night was Joe Mazzello, who plays Queen bass guitarist John Deacon. Mazzello noted his character's personality as "reserved in public but engaging in private with the band members" and the "king of the one-liner." Since I read that Mazzello had previous bass guitarist experience, I asked him about his experience with the film music. Mazzello spoke of one

year of guitar lessons at 18 but when hearing word of the film, he practiced four days a week learning to play Queen songs. Five weeks of rehearsals and 10 days of filming the Wimbledon concert were some of the most intense for Mazzello, but the effort was well worth it, as parts of his bass guitar playing made it into the film.

A more formal review will come out when we're closer to the film. While you wait, watch the trailers of Freddie Mercury giddily saying, "This is when the operatic section comes in." The dramatic biopic *Bohemian Rhapsody* coming soon.



ALEXIS CAMACHO

**From left to right: Gwilym Lee, Rami Malek, and Joseph Mazello** at a special screening of *Bohemian Rhapsody* at the AMC Loews Theater Boston Common Oct 1.

## MOVIE REVIEW

**Forget the turkey — *The Oath* will fill you up on laughs and reflection this Thanksgiving season**

This timely film puts a refreshing spin on the classic American political movie through comedy, satire, and the absurd

**By Sophia Chan**

Politics has always been a taboo subject at the dinner table for many American families. Raising the stakes tenfold, Ike Barinholtz, through *The Oath*, weaves the tale of a family attempting to survive Thanksgiving during a period of controversial turmoil in the White House.

As the writer, producer, and actor of the film, Ike Barinholtz drew inspiration for his film from his own experiences. As he spoke anecdotally during the Q&A session following the premiere of the movie, he detailed the Thanksgiving meal that he had with his own family as well as the conflicts that were uncovered regarding the previous presidential election. Even though his family members all voted for the same candidate, there were still hostility and dissent between opinions, and this was precisely what motivated him to address the issue of political division in his work.

The story follows the internal dynamics of a biracial family. Chris, a liberal and high-strung white male, and his relatively more reasonable wife, Kai, a black woman, coparent their daughter during a time when the President releases a policy encouraging citizens to pledge a loyalty oath. The two, in utter disbelief, refuse to give in to the Presi-

dent's agenda and follow the policy closely. As Thanksgiving approaches, Chris becomes increasingly agitated as he discovers that more and more people have signed the oath. As the topic of politics is brought up at the holiday dinner table, tension brews. When two government agents show up unexpectedly and uninvited, the entire family's world turns upside down.

The element of the movie that especially stood out was the outrageous absurdity that Barinholtz integrated into the movie. The plot was structured both elegantly and skillfully in terms of the dark humor and satire that it provided for the audience. The film paralleled many of the political circumstances in today's society, and the unrealistically extreme situations made the film all the more entertaining and complex.

The choice of actors and actresses inadvertently served as a channel to accent some of the racial undertones of the story. Kai (Tiffany Haddish) was intentionally cast as a black woman while Peter (John Cho) was cast as an Asian man. The fact that multiple races were represented fortified the theme of inclusion and representation.

In a cinematic sense, there are arguably several drawbacks throughout the piece. Because the entire storyline takes place in Chris's house, shooting in the same loca-

★★★★☆

## The Oath

**Directed by Ike Barinholtz**

**Produced by Ike Barinholtz, David Stassen, Andrew C. Robinson, Sean McKittrick, Raymond Mansfield**

**Starring Ike Barinholtz, Tiffany Haddish, Nora Dunn, Chris Ellis, Jon Barinholtz**

**Rated R, in Select Theaters Oct. 12, Everywhere Oct. 19**

tion caused the movie to lack slightly in terms of graphical satisfaction. In addition to that, the plot also felt slightly elementary and not complex enough. Given the topics upon which it touched, the film had much more potential to explore and address political antagonism and race on an even deeper level. However, the color thematics provided intricacy in terms of how it affected the audience's mood.

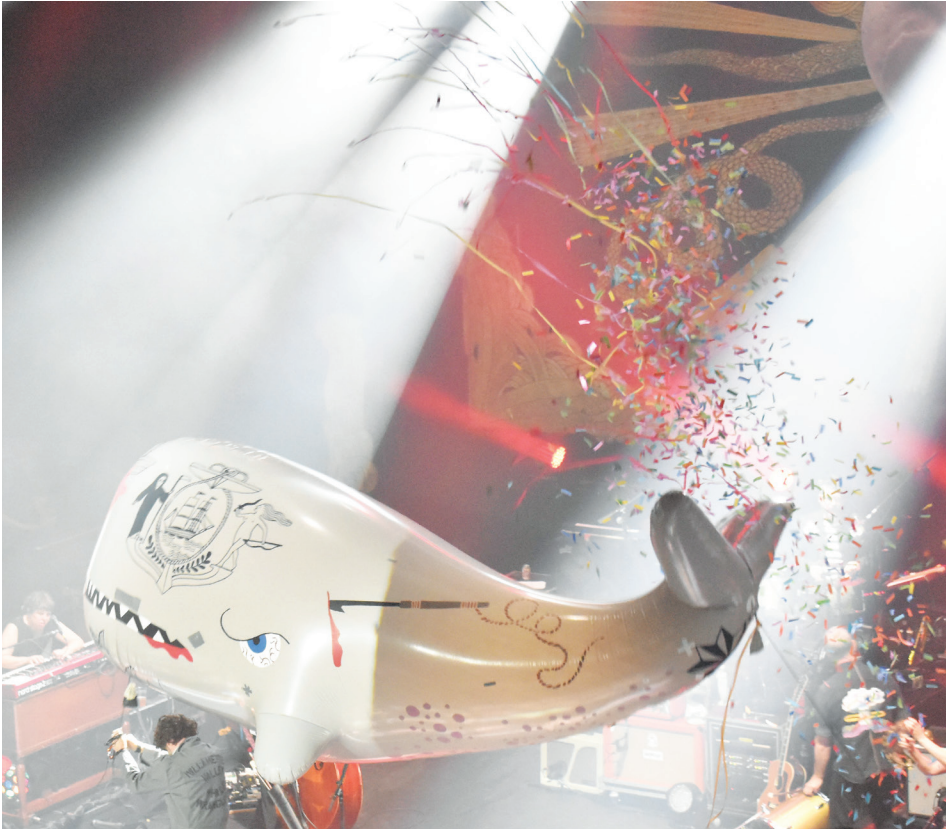
Although Barinholtz appears to emphasize the tribalism in our political atmosphere, it is important to realize that he

also attempts to highlight the importance of finding unity through unlikely circumstances. He moralizes the significance of seeking not only acceptance but strength in the diversity of opinions. Stressing the uncertainty of life, he encourages his audience to take each day as it comes, to find peace in living in the present.

While the production of this film certainly isn't flawless, it is very promising in its ability to evoke amusement. So as we approach Thanksgiving season, go out there and get some hearty laughs out of *The Oath*!

```
File Edit Options Buffers Tools Im-Python Python Help
from new_skills import *
def learnMarketableJobSkills():
    return linux, OSX, javascript, applescript, perl, python, PHP
if self.interest == True:
    print "E-mail join@tech.mit.edu"
----:----F1 joinTechno.py (Python)--L1--Top-----
```





# The Decemberists

## YOUR GIRL/YOUR GHOST Tour comes to Boston

The Decemberists played to a sold-out crowd at the Orpheum Theatre Oct. 5, with Marissa Nadler opening. The band went through its entire 2009 album *The Hazards of Love*. There was as much bombast as one would expect from a Decemberists show — a giant whale balloon and a birthday song for frontman Colin Meloy included.





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Solution to Apple

from page 10

6	5	8	2	1	3	7	4	9
4	3	9	6	7	5	1	8	2
1	7	2	9	4	8	5	6	3
9	8	1	5	3	7	6	2	4
3	2	4	1	9	6	8	7	5
7	6	5	8	2	4	9	3	1
8	4	3	7	5	9	2	1	6
5	1	7	4	6	2	3	9	8
2	9	6	3	8	1	4	5	7

Solution to Country

from page 10

5	1	3	4	2	6
3	5	1	2	6	4
4	6	2	3	1	5
2	4	6	1	5	3
1	3	5	6	4	2
6	2	4	5	3	1

Solution to Pet Phrase

from page 10

MALE	MESAS	SPAM
ACES	EVENT	TUBA
ITAT	TENTO	OMIT
LIKE	HERDING	CATS
EAR	EEK	
ASAMI	SAW	TAMPA
SAT	TIARAS	DELL
PUTTING	ON	THE DOG
ECHO	NAMELY	IDA
REELS	SAD	ERASE
LOS	ONE	
SING	LIKE	A CANARY
ARIA	GEESE	OREO
COLT	HENNA	WEAK
KNEE	SPYON	NAPE

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ADVICE

# Ready for it?

Auntie Matter on finding all you need in this life: love and summer employment

By Auntie Matter

If you have questions for Auntie Matter, please submit them at [tinyurl.com/AskAuntieMatter](https://tinyurl.com/AskAuntieMatter). Questions have been edited for length, clarity, and content.

Dear Auntie Matter,  
How can you tell if a meeting was a date (besides asking)? And, how can you tell if you want/are ready for a close relationship? Thank you.

— Dating Ditherer

Dear Ditherer,  
Auntie is a little concerned about the fact that you don't want to ask this person whether you were on a date. If you won't ask and you can't determine it yourself, then this does not bode well for your relationship. Nevertheless, she will give you some hints for the clueless (tips for the tortured? Words for the weak?):

- If your meeting partner paid without a clear explanation, it was likely a date.
- If any mention of the word "date" was met without objection, it was likely a date.
- If there was an attempted kiss, it was likely a date.
- If you held hands, it was likely a date.
- The more touching, the more likely a date.
- If your meeting partner made use of a pickup line, it was likely a date.
- If it was an interview, then it was not a date.
- If you had sex, Auntie sincerely hopes it was a date.
- Auntie also looked this up for you. If there was an "eyebrow sweep," or if your companion looked left then swept his/her eyes over your face to look right, it was likely a date. Source: <https://www.wiki-how.com/Know-if-a-Guy-Likes-You>.

Now, to your second question. You ask how to know if you are ready to have a relationship, or if you even want one. In terms of wanting a relationship, to know if you want a relationship with a specific person, you can go on more dates with them. In the fullness of time, all will reveal itself, and you will know if you want a relationship with someone you are going on dates with. However, how to know if you want to date in general is something you must determine. If you have feelings for someone, you should probably attempt dating them and see how it goes.

On readiness for a relationship, Auntie would tend to think that most college-age people are ready to at least attempt a relationship. This error is also self-correcting: if you assume you are ready and give it a shot, then you (or your would-be partner) will quickly know if you were mistaken. Auntie thinks that even if your life is disorderly, you can still find love. You do not need to be perfect. You should probably be in relatively good working order (not totally dysfunctional), but a lot of young people struggle with many aspects of their lives. This does not mean young people should not have love affairs. This is not to say the bar is low, but that you could be flunking all your classes and nonetheless be quite ready to date. But I digress. If you still want guidance, here are some questions you might consider before embarking on a relationship:

1. Do I think love is worth the possible pain of heartbreak? (It is not necessary to be ready for heartbreak itself: when it comes, you will meet it.)
2. Can I admit to being in the wrong?
3. Is my day-to-day life negatively affected by any previous relationships?
4. Am I able to ask for what I want? Do I care to give others what they want?

5. Will I notice if someone is treating me poorly? Will I leave someone who makes me unhappy?
6. Am I willing to become a better person for the good of my lover?

Overall, as usual, Auntie encourages you to give love a shot. The fact that you are curious about relationships suggests you might want one — go forth and fall passionately in love.

Dear Auntie,  
Everybody I know on my floor is Course 6. I'm CMS. Everyone on my floor is doing their interviews and getting offers now. I am applying to Course 6 internships, but I'm not sure if I want to do them. The CMS internships are my first choice, but they start letting you apply just as the Course 6 jobs make you decide on their offers. How do I stop being so anxious about this when I know the anxiety is unnecessary?

— Choosing: Media or Software?

Dear CMS,  
Why are you applying to Course 6 internships?

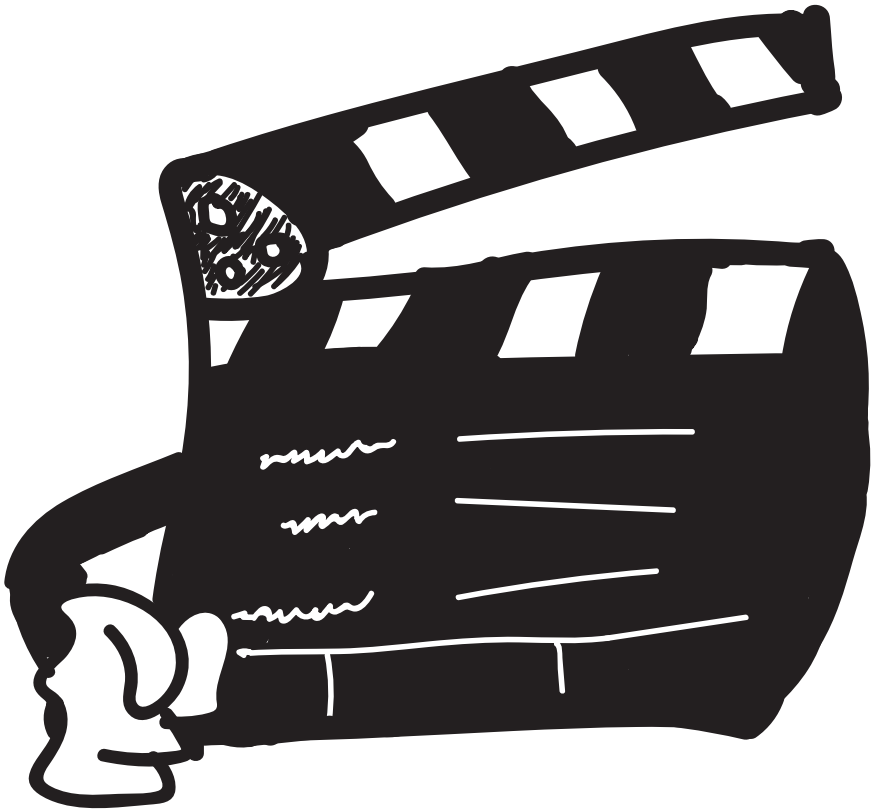
Are you worried that you're not going to get a CMS internship? Are they more competitive? If so, it seems sensible to have a fallback. The reasonable course of action in this scenario is to apply to the Course 6 jobs and ask for extensions on accepting offers. If the companies refuse to grant extensions, and you don't get a CMS job, Auntie has heard rumors that there are still software engineering internships to be had in the spring, too. You will get an internship for next summer, never fear.

Are you feeling pressure from seeing floormates get Course 6 internships? If so, Auntie wants you to know that it's okay that you want to do something different from the people on your floor. Auntie

herself has experience doing, well, non-Course 6 internships. However, the pressure you feel is understandable. It is oft-repeated, yet true, that Career Fair gives a distorted image of the jobs that are out there, i.e., that the only possible professions are software engineer, trader, and consultant, with NSA codebreaker tossed in for good measure. However, the reality is that there are many people on this planet who are not software engineers, and you could join them.

Here's a mental exercise Auntie likes to conduct: next time you feel like everyone in the world is a Course 6, look around you at the objects in your everyday life. There are lots of things involved in the creation and maintenance of those objects that are not software-engineering related. Take a book of poems, for example. You could be a poet, an editor, a marketer who works at a publishing house, a librarian, a critic who reviews poetry, a font designer, a person who engineers and maintains machines for printing books, a person who improves upon the types of paper or ink used in books, a person who decides how to distribute books, a teacher who teaches the poems in their classroom, a curriculum designer who figures out how to integrate them into a high school English curriculum, an SAT question writer who uses the poems for a section of the exam, and more.

Finally, about your anxiety. Auntie's philosophy on anxiety is that you should worry to a certain extent, but there is a line between paying attention to the things you need to do in a situation and constantly stressing out about what you can't control. It seems like you are taking all the actions you need to in this situation, which itself might be a comfort. You already knew what to do! You'll be fine.



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## SCIENCE IN YOUR LIFE

# Investigating influenza

*Findings about the flu virus were made by the Shoulders Lab*

**By Hanna Tuomi**

As winter approaches, New England can begin to anticipate cold weather and snow. But while we begin to brace ourselves against the elements, we must similarly protect ourselves from the onset of flu season.

The United States experiences annual flu outbreaks, usually starting in October or November and sometimes lasting until May. The Centers for Disease Control (CDC) monitors flu indicators such as laboratory test results, influenza hospitalizations, and deaths. Outpatient visits for flu-like symptoms such as fever, sore throat, runny nose, cough, headache, muscle and joint pain, or malaise, are also counted in order to determine the beginning of “flu season.”

The CDC recommends getting vaccinated against influenza annually. Flu viruses evolve every year, even within a “flu season.” At MIT, the Shoulders Lab, headed by Matthew Shoulders, is generally interested in protein folding and how it affects viral evolution. The lab specifically investigated the mechanisms behind influenza virus evolution and published their findings in the papers “Host proteostasis modulates influenza evolution” in *eLife* in Sept. 2017 and “Destabilized adaptive influenza variants critical for in-

nate immune system escape are potentiated by host chaperones” in PLoS Biology in Sept. 2018. Graduate student Anna Ponomarenko and Angela Phillips PhD '18 led the work. For Phillips, this topic “is especially appealing from the perspective of viral evolution because viruses are rapidly mutating.”

The lab currently studies viral evolution using both influenza and HIV, viruses that mutate rapidly and are able to develop resistance to antiviral therapeutics and vaccines. According to Phillips, this high mutation rate has a downside for the viruses: “these mutations can also be detrimental to the viral proteins and can hamper viral protein folding, so we were really interested in how this protein folding constrains viral evolution.”

In the initial eLIFE paper, the lab discovered that cellular factors such as chaperone proteins were involved in the evolution of influenza. Chaperone proteins exist in human cells to help proteins fold properly. Ponomarenko likens chaperones to expert furniture assembly, saying they are “the complex network in the cells that helps its own proteins to fold and achieve proper structure that is critical to function.”

The lab sought to look into if and how this host protein folding network impacts viral evolution.

To approach this question, Phillips describes how in their recent PLoS paper, the lab used a collection of influenza viruses with mutated nucleoproteins. The library was used to infect host cells with varying levels of chaperones, and the lab then analyzed the chaperone-viral protein interactions for each mutant.

The study found experimental evidence that this host folding network of chaperones is critical for flu evolution, likely by allowing the mutant flu protein to fold. The virus “hijacks [the] systems” that human cells use to make protein, “[uses] them to resolve some defects, and that’s how it propagates,” explained Ponomarenko.

While the Shoulders Lab focuses on the fundamental research behind the evolution, Phillips and Ponomarenko see how the results could eventually be applied to treatments. A potential outcome could be using a chaperone inhibitor, in addition to an antiviral, “to prevent [viral] resistance from developing,” Phillips says. “We are very far from that, but I think it is a promising approach for the future.”

For now, our main defense against the influenza virus is vaccinations. The CDC explains how the flu vaccine is redesigned every season to protect against the strains of influenza that are most likely to circu-

late in a given year. The composition of a season's flu vaccine is determined by collecting and analyzing influenza virus samples from over 100 influenza centers in over 100 countries. The World Health Organization then assembles biannually to recommend which viruses to include in flu vaccines, but ultimately, every country decides their vaccine composition for the upcoming season.

The CDC suggests getting vaccinated early, before the flu starts spreading. After getting the vaccine, it takes around two weeks for your body to develop the correct antibodies to fight against a particular flu virus strain. It is recommended to get vaccinated by the end of October.

MIT Medical began offering flu clinics starting Oct. 3 on the Cambridge campus. The vaccine for this year is quadrivalent or has four components. It protects against influenza A (H1N1 and H3N2) and two strains of influenza B. All MIT Medical patients older than 10, employees, students, affiliates, and retirees can get flu vaccines by going to walk-in clinics or calling the Flu Line at 617-253-4865 to make an appointment. The remaining campus clinics this year are Oct. 16 from 3 p.m. to 7 p.m. in the Stratton Student Center (W20), and Oct. 18 from 3 p.m. to 6 p.m. at the Tang Center (E51).

# Creative collaboration

*The 'How to Generate (Almost) Anything' project yields everything from dresses to graffiti*



COURTESY OF PINAR YANARDAG

**The artist IMAGINE and Pinar Yanardag** pose with human-AI collaborated graffiti in Graffiti Alley, Cambridge.

**By Joanne Yuan**

Have you ever considered what AI-inspired pizza might taste like? Or how perfume with AI-generated recipes might smell?

Pinar Yanardag, a postdoctoral associate at MIT's Media Lab explores these

questions and more through her “How to Generate (Almost) Anything” series, which she describes as an example of MIT hacking culture and designed to “playfully show how we can use technology to create cool stuff” In this project, humans and AI collaborate on everything from designing dresses to cooking up recipes for pizza.

First, because AI has to learn from a database of similar objects, Yanardag and her team find datasets for what they want to create. This sometimes involves reading blogs to find what kind of resources artists working on that area use. After obtaining that data, they decide what kind of algorithm would fit well to generate something similar, train the algorithm for several days or weeks, and finally look at the results to see what the AI has dreamt up.

Yanardag and her team then contact potential collaborators. “Most of the time, people are super interested in doing a collaboration,” notes Yanardag.

After selecting a couple of promising recipes, they work to then bring the recipes to life.

Rather than strictly adhering to what AI generates, however, artists use it as inspiration. And while the ideas generated by AI may seem out of the ordinary, it's that characteristic that can lead to innovation, allowing people to, as Yanardag believes, "create things that they wouldn't create otherwise."

“When we collaborated with a dress designer, she really liked [the AI’s creations] because she found it really odd and really inspiring. She said she wouldn’t even think of [it] if it wasn’t for the AI.”

Something that surprised her, however, was how receptive people were to the AI's unusual creations (which include

a shrimp, jam and Italian sausage pizza and a futuristic-looking hat). People were very willing to try out the creations, even if they initially seemed strange, and some ended up really enjoying the results of the human-AI collaboration.

Yanardag has also found the process to be rewarding in more ways than one. Before this project, she had never tried making graffiti before, but now, she says, "I'm really interested in learning more about graffiti art and actually trying to create my own graffiti."

But will AIs one day be able to do the creative work on their own?

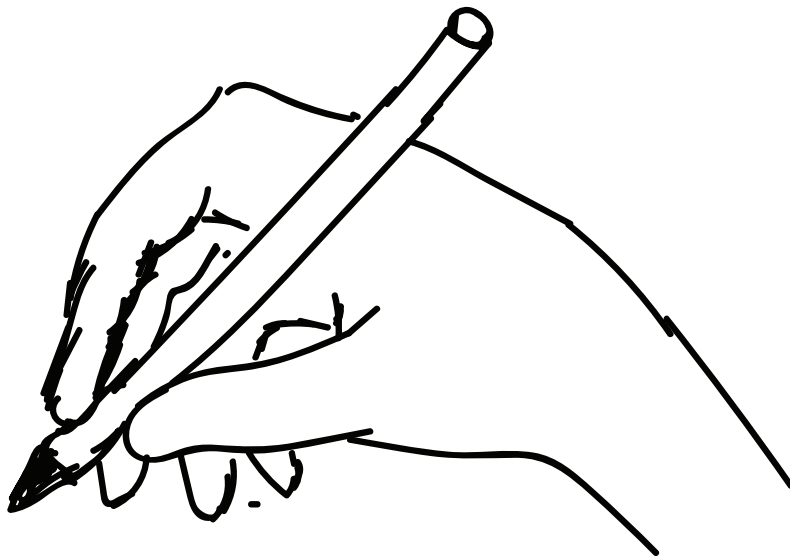
“I think AI is going to be really good in creating things that probably don’t need human interpretation or feedback much.” Although AI systems are getting better and better, Yanardag notes, “I think people’s tastes and people’s opinions will change over time too. So maybe, [it’s the] feedback loop between AI and humans that will create the best outcome.”

“[Ultimately], I think AI and humans are dependent on each other. I don’t see a future where AI can completely take over.” In the future, however, just like people now collaborate with each other, perhaps people will also collaborate directly with AI.

Visit [howtogeneratealmostanything.com](http://howtogeneratealmostanything.com) for more information on Yanardag's project.

Are you handy with a pen?

join @ tech.mit.edu





## Solution, page 7

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

## Solution, page 7

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

59 "It will come \_\_ surprise  
..."  
60 Neck of the woods  
61 Gather from the fields  
62 Oxen's harness

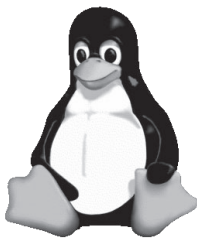
I HAVEN'T USED A WIRELESS/BLEETOOTH THINGY IN LIKE TEN YEARS. IS AUDIO STUFF STILL A NIGHTMARE?  
 NAH, IT'S GREAT NOW.  
 YOU TAP DEVICES TOGETHER TWICE TO LINK THEM AND THEY FLASH IN SYNC. (IT PAIRS USING ACCELEROMETER TIMING AND SOUND.) TAP THEM THREE TIMES TO DISCONNECT.  
 YOU CAN PAIR MULTIPLE INPUTS AND OUTPUTS AND IT HANDLES IT SMOOTHLY.  
 IT JUST WORKS. SOUND COMES FROM WHERE YOU EXPECT.  
 NICE!  
 WONDERFUL.  
 HAHA, JUST KIDDING, IT'S A NIGHTMARE.  
 NOOOOOOOO!  
 WHEN I CONNECT TO MY CAR, MUSIC STARTS BLASTING FROM MY HEAD-PPHONES WHILE THE CAR REPEATEDLY PLAYS A "NEW CONNECTION!" CHIME.  
 THIS IS NOT WHAT JOSIAH BLEETOOTH INTENDED!

Bluetooth is actually named for the tenth-century Viking king Harald "Bluetooth" Gormsson, but the protocol developed by Harald was a wireless charging standard unrelated to the modern Bluetooth except by name.



# Do you have a question for President Reif?

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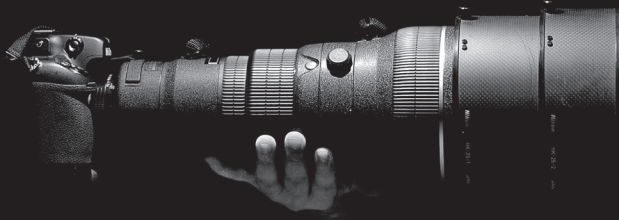
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The program also includes Niccolò Castiglioni's *Tropi* (a selection from BMV's first season), Judith Weir's *Blue-Green Hill* and Gunther Schuller's *Four Vignettes*—both past BMV commissions—and a new bagatelle by Eitan Steinberg.



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Info Sessions on 10/8 (12-1pm, e23-385a) and  
10/25 (12-1pm, e23-319).

Office of the **Chancellor**  
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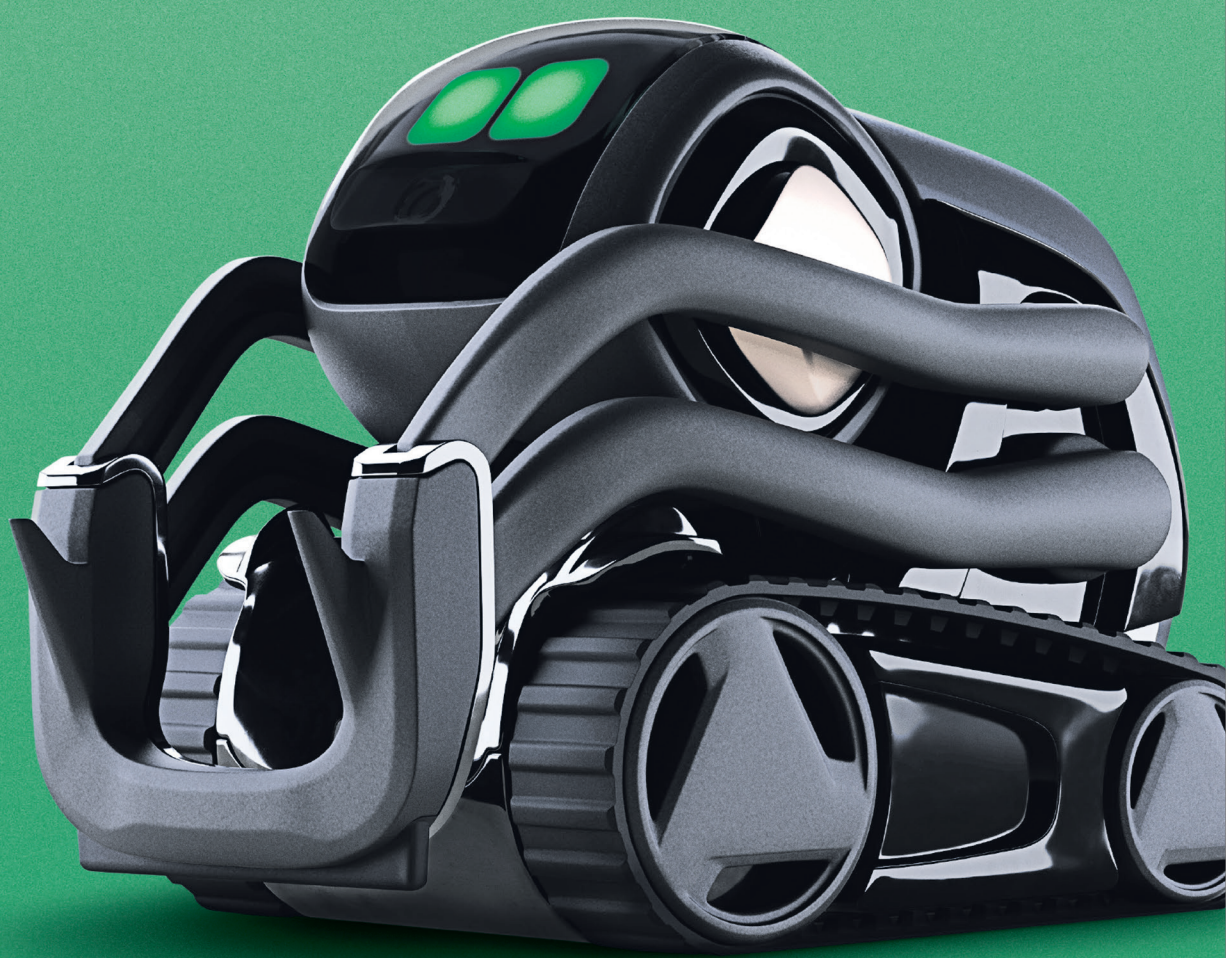
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